Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2 (canceled)

Claim 3 (currently amended): A ~~The~~ relay apparatus ~~as claimed in claim 2, further~~ equipped with a function capable of canceling loop operation of a signal between a reception antenna and a transmission antenna, comprising:

a subtracting unit for subtracting a duplicated loop signal from a received input signal which is produced by containing loop waves in a desirable wave received via said reception antenna;

a relay broadcasting unit for inputting the output signal of said subtracting unit and for outputting a broadcasting signal;

a signal processing unit for producing said duplicated loop signal based upon any one of the input signal of said relay broadcasting unit and the broadcasting signal outputted from said relay broadcasting unit;

a variable phase shifting unit for varying a phase of said duplicated loop signal which is produced by said signal processing unit;

a local oscillation unit for producing a local oscillation frequency signal;

a dividing unit for dividing said local oscillation frequency signal;

a first frequency converting unit for frequency-converting any one of the wireless frequency signals corresponding to the input signal and the output signal of said relay broadcasting unit into an intermediate frequency signal by using one of said local oscillation frequency signals divided by said dividing unit; and

a second frequency converting unit for frequency-converting said duplicated loop signal which is produced by said signal processing unit into a wireless frequency signal by using the other local oscillation frequency signal divided by said dividing unit,

wherein a said variable phase shifting unit adjusts the phase of said duplicated loop signal so that a phase error of said duplicated loop signal is corrected, and

wherein said variable phase unit is connected to any one output side, or both output sides of said dividing unit.

Claim 4 (currently amended): A ~~The~~ relay apparatus ~~as claimed in claim 1, further~~ equipped with a function capable of canceling loop operation of a signal between a reception antenna and a transmission antenna, comprising:

a subtracting unit for subtracting a duplicated loop signal from a received input signal which includes loop

waves in a desirable wave received via said reception antenna;

a relay broadcasting unit for inputting the output signal of said subtracting unit and for outputting a broadcasting signal;

a signal processing unit for producing said duplicated loop signal based upon any one of the input signal of said relay broadcasting unit and the broadcasting signal outputted from said relay broadcasting unit;

a variable attenuating unit for varying a signal level of said duplicated loop signal which is produced by said signal processing unit; and

a signal level measuring unit for measuring a signal level of the output of said subtracting unit,

wherein said variable attenuating unit adjusts the signal level of said duplicated loop signal so that an amplitude error of said duplicated loop signal is corrected, and

wherein said variable attenuating unit adjusts the signal level of said duplicated loop signal so that the signal level of the output of said subtracting unit, which is measured by said signal level measuring unit, becomes a predetermined signal level.

Claim 5 (currently amended): A ~~The~~ relay apparatus ~~as claimed in claim 2, further~~ equipped with a function capable of canceling loop operation of a signal between a reception antenna and a transmission antenna, comprising:

a subtracting unit for subtracting a duplicated loop signal from a received input signal which is produced by containing loop waves in a desirable wave received via said reception antenna;

a relay broadcasting unit for inputting the output signal of said subtracting unit and for outputting a broadcasting signal;

a signal processing unit for producing said duplicated loop signal based upon any one of the input signal of said relay broadcasting unit and the broadcasting signal outputted from said relay broadcasting unit;

a variable phase shifting unit for varying a phase of said duplicated loop signal which is produced by said signal processing unit;

a signal level measuring unit for measuring a signal level of the output of said subtracting unit,

wherein a said variable phase shifting unit adjusts the phase of said duplicated loop signal so that a phase error of said duplicated loop signal is corrected, and

wherein said variable phase shifting unit adjusts the phase of said duplicated loop signal in such a manner that the signal level of the output of said subtracting unit,

which is measured by said signal level measuring unit, becomes a predetermined signal level.

Claim 6 (currently amended): A ~~The~~ relay apparatus ~~as claimed in claim 1, further~~ equipped with a function capable of canceling loop operation of a signal between a reception antenna and a transmission antenna, comprising:

a subtracting unit for subtracting a duplicated loop signal from a received input signal which includes loop waves in a desirable wave received via said reception antenna;

a relay broadcasting unit for inputting the output signal of said subtracting unit and for outputting a broadcasting signal;

a signal processing unit for producing said duplicated loop signal based upon any one of the input signal of said relay broadcasting unit and the broadcasting signal outputted from said relay broadcasting unit;

a variable attenuating unit for varying a signal level of said duplicated loop signal which is produced by said signal processing unit;

a receiving/demodulating unit for receiving said broadcasting signal outputted from said relay broadcasting unit and for demodulating said received broadcasting signal; and

an error rate measuring unit for measuring an error rate of said broadcasting signal which is demodulated by said receiving/demodulating unit,

wherein said variable attenuating unit adjusts the signal level of said duplicated loop signal so that an amplitude error of said duplicated loop signal is corrected, and

wherein said variable attenuating unit adjusts the signal level of said duplicated loop signal in such a manner that the error rate of said broadcasting signal measured by said error rate measuring unit becomes lower than, or equal to a predetermined value.

Claim 7 (currently amended): A ~~The~~ relay apparatus ~~as claimed in claim 2, further~~ equipped with a function capable of canceling loop operation of a signal between a reception antenna and a transmission antenna, comprising:

a subtracting unit for subtracting a duplicated loop signal from a received input signal which is produced by containing loop waves in a desirable wave received via said reception antenna;

a relay broadcasting unit for inputting the output signal of said subtracting unit and for outputting a broadcasting signal;

a signal processing unit for producing said duplicated loop signal based upon any one of the input signal of said

relay broadcasting unit and the broadcasting signal outputted from said relay broadcasting unit;

a variable phase shifting unit for varying a phase of said duplicated loop signal which is produced by said signal processing unit;

a receiving/demodulating unit for receiving said broadcasting signal outputted from said relay broadcasting unit and for demodulating said received broadcasting signal; and

an error rate measuring unit for measuring an error rate of said broadcasting signal which is demodulated by said receiving/demodulating unit,

wherein a said variable phase shifting unit adjusts the phase of said duplicated loop signal so that a phase error of said duplicated loop signal is corrected, and

wherein said variable phase shifting unit adjusts the phase of said duplicated loop signal in such a manner that the error rate of said broadcasting signal measured by said error rate measuring unit becomes lower than, or equal to a predetermined value.